

**ABSTRACT**

[0086] A method and apparatus for providing corrected values of gain and level coefficients of a set of correction coefficients for a scanning detector array, such as an IR detector array, comprising a plurality of detector channels is described. First values of the gain and level coefficients can be modified using at least one frame of image data collected by the scanning detector array from out-of-focus multiple-temperature imagery. Updated values of the gain and level coefficients can be determined using a scene-based non-uniformity correction (SBNUC) routine applied to scene data corresponding to focused scene imagery. The SBNUC routine can be applied iteratively such that updated values of gain and level coefficients converge to stable values.